



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

## ANALYTICAL REPORT

### Perfluorocarbon (PFC) Analysis

Lot #: D9I100275

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Dalton Utilities  
1200 V.D. Parrot Jr. Parkway  
Dalton, GA 30721

*for:*   
Michelle A. Johnston  
Project Manager

September 25, 2009

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## Standard Deliverables

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### Total Number of Pages

#### **Standard Deliverables**

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## Case Narrative

### D9I100275

TestAmerica Denver utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the methods summary page in accordance with the methods indicated. Dilution factors and footnotes are provided on each datasheet to assist in the interpretation of the results.

The results relate only to the samples in this report and meet all requirements of NELAC. All data have been reviewed for compliance with the laboratory QA/QC plan and have found to be compliant with laboratory protocols with any exceptions noted below.

Please note that Non-Detect (ND) results have been evaluated down to the Method Detection Limit (MDL) and should be considered ND at the MDL. Unless otherwise noted, results for solids have been dry weight corrected.

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#### **Sample Arrival and Receipt**

The following report contains the analytical results for eight samples received at TestAmerica Denver on September 10, 2009, according to documented sample acceptance procedures. The samples were received in good condition at a temperature of 2.9°C.

Sample #77 454 JIM PETTY RD was initially logged in this lot, as all samples were listed on a single chain of custody. Per client instruction on September 11, 2009, this sample was deleted from this lot and moved to D9I110126. A revised chain of custody was received on September 12, 2009. Both the original and revised chains of custody are included in the report.

No other anomalies were encountered during sample receipt.

#### **Standards**

Analytical standards were prepared using commercially available certified solutions containing all compounds of interest.

The mass labeled compounds 13C4 PFBA, 13C2 PFHxA, 18O2 PFHxS, 13C4 PFOA, 13C4 PFOS, 13C5 PFNA, 13C2 PFDA, 13C2 PFA, 13C2 PFDa, and D3 MeFOSA were introduced at the extraction step and were used for internal standards for the quantitation of the target compounds.

#### **Sample Extraction and Analysis**

The samples presented in this report were extracted for the target analytes by TestAmerica Denver's Standard Operating Procedure (SOP) DV-OP-0019 and analyzed for the target analytes by TestAmerica Denver's SOP DV-LC-0012.

#### **Method QC Samples**

The Method Blank is processed reagent water spiked with surrogate and prepared with each batch of 20 samples of the same matrix. The method blanks were non-detect at the reporting limits for the target analytes.

Each batch is prepared with low and mid level Laboratory Control Samples (LCS). The LCS recoveries for both levels were within established control limits, with the exception of the items noted in section Analytical Comments.

**Analytical Comments**

The Standard Operating Procedure (SOP) was altered slightly in the sample preparation for FOSA. Sodium hydroxide was added to the sample to obtain a pH of 14 instead of the SOP required <2. The basic pH is generating better internal standard recoveries for Me FOSA.

Please note the organic preparation chemist had to use two cartridges during the FOSA extraction process for sample #76 20304 WATERLOO DR.

Due to a limitation in the LIMS system, the low-level LCS associated with QC batch 9254187 reported the percent recoveries for Perfluorotridecanoic Acid (PFTriA) and Perfluorotetradecanoic Acid (PFTeA) as 0.0%. PFTriA was recovered within the control limits (50-150%) at 53% and PFTeA was recovered within the control limits (50-150%) at 55%. As these compounds were detected below the Method Detection Limit (MDL) of 0.020 ug/L, the system reports the percent recoveries as 0.0%.

The method required MS/MSD could not be performed for QC batches 9254187 and 9254190, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable low-level LCS and mid-level LCS/LCSD analyses data.

No other anomalies were observed.

# EXECUTIVE SUMMARY - Detection Highlights

D9I100275

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
#78 814 TILTON BRIDGE RD 09/04/09 15:14 003				
Perfluorooctanoic Acid	0.013 J	0.020	ug/L	DEN -LC-0012
Perfluorooctanesulfonate	0.019 J	0.020	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.0074 J	0.020	ug/L	DEN -LC-0012

# METHODS SUMMARY

D9I100275

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
LC/MS/MS PFCs	DEN -LC-0012	SW846 FOSA spec

## References:

DEN      Severn Trent Laboratores, Denver, Facility Standard  
Operating Procedure.

# METHOD / ANALYST SUMMARY

D9I100275

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
DEN -LC-0012	Jacqueline Bonnett	003601

## References:

DEN        Severn Trent Laboratores, Denver, Facility Standard  
          Operating Procedure.

# SAMPLE SUMMARY

D9I100275

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LKKVR	001	#76 20304 WATERLOO DR	09/04/09	11:30
LKKV5	003	#78 814 TILTON BRIDGE RD	09/04/09	15:14
LKKWC	004	#79 260 FOX BRIDGE RD	09/09/09	11:48
LKKWE	005	#80 1138 FOX BRIDGE RD	09/09/09	12:40
LKKWF	006	#81 1293 FOX BRIDGE RD	09/09/09	13:19
LKKWG	007	TRIP BLK	09/09/09	
LKKWH	008	FIELD BLK	09/09/09	
LKKWJ	009	DUP	09/09/09	

## NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Dalton Utilities

Client Sample ID: #76 20304 WATERLOO DR

HPLC

Lot-Sample #...: D9I100275-001 Work Order #...: LKKVR1AA Matrix.....: WATER  
 Date Sampled...: 09/04/09 11:30 Date Received...: 09/10/09  
 Prep Date.....: 09/11/09 Analysis Date...: 09/17/09  
 Prep Batch #...: 9254187 Analysis Time...: 05:52  
 Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0098
Perfluorooctanesulfonate	ND	0.020	ug/L	0.013
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0098
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.011
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0029
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.013
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.017
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0069
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.015
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.018
riA)				
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.015
FTeA)				
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0082
S)				
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0070
xS)				

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	114	(50 - 200)
13C4 PFOS	66	(50 - 200)
13C4 PFBA	92	(50 - 200)
13C2 PFHxA	104	(50 - 200)
1802 PFHxS	93	(50 - 200)
13C5 PFNA	91	(50 - 200)
13C2 PFDA	72	(50 - 200)
13C2 PFUnA	60	(50 - 200)
13C2 PFDoA	67	(50 - 200)

Dalton Utilities

Client Sample ID: #76 20304 WATERLOO DR

HPLC

Lot-Sample #...: D9I100275-001 Work Order #...: LKKVR1AC Matrix.....: WATER  
Date Sampled...: 09/04/09 11:30 Date Received...: 09/10/09  
Prep Date.....: 09/11/09 Analysis Date...: 09/12/09  
Prep Batch #...: 9254190 Analysis Time...: 15:15  
Dilution Factor: 1  
Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	55	(50 - 200)

Dalton Utilities

Client Sample ID: #78 814 TILTON BRIDGE RD

HPLC

Lot-Sample #...: D9I100275-003 Work Order #...: LKKV51AA Matrix.....: WATER  
 Date Sampled...: 09/04/09 15:14 Date Received...: 09/10/09  
 Prep Date.....: 09/11/09 Analysis Date...: 09/17/09  
 Prep Batch #...: 9254187 Analysis Time...: 06:09  
 Dilution Factor: 1  
 Method.....: DEN -LC-0012

PARAMETER	RESULT	LIMIT	UNITS	MDL
Perfluorooctanoic Acid	0.013 J	0.020	ug/L	0.0098
Perfluorooctanesulfonate	0.019 J	0.020	ug/L	0.013
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0098
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.011
Perfluorohexanoic acid (PFHxA)	0.0074 J	0.020	ug/L	0.0029
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.013
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.017
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0069
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.015
A)				
Perfluorotridecanoic acid (PFTria)	ND	0.020	ug/L	0.018
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.015
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0082
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0070

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	111	(50 - 200)
13C4 PFOS	59	(50 - 200)
13C4 PFBA	90	(50 - 200)
13C2 PFHxA	104	(50 - 200)
18O2 PFHxS	90	(50 - 200)
13C5 PFNA	82	(50 - 200)
13C2 PFDA	70	(50 - 200)
13C2 PFUnA	57	(50 - 200)
13C2 PFDoA	58	(50 - 200)

NOTE(S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: #78 814 TILTON BRIDGE RD

HPLC

Lot-Sample #....: D9I100275-003 Work Order #....: LKKV51AC Matrix.....: WATER  
Date Sampled....: 09/04/09 15:14 Date Received...: 09/10/09  
Prep Date.....: 09/11/09 Analysis Date...: 09/12/09  
Prep Batch #....: 9254190 Analysis Time...: 15:22  
Dilution Factor: 1

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	63	(50 - 200)

Dalton Utilities

Client Sample ID: #79 260 FOX BRIDGE RD

HPLC

Lot-Sample #....: D9I100275-004    Work Order #....: LKKWC1AA    Matrix.....: WATER  
 Date Sampled....: 09/09/09 11:48    Date Received...: 09/10/09  
 Prep Date.....: 09/11/09    Analysis Date...: 09/17/09  
 Prep Batch #....: 9254187    Analysis Time...: 06:25  
 Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0098
Perfluorooctanesulfonate	ND	0.020	ug/L	0.013
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0098
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.011
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0029
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.013
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.017
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0069
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.015
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.018
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.015
S)				
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0082
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0070

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	109	(50 - 200)
13C4 PFOS	65	(50 - 200)
13C4 PFBA	88	(50 - 200)
13C2 PFHxA	101	(50 - 200)
18O2 PFHxS	88	(50 - 200)
13C5 PFNA	84	(50 - 200)
13C2 PFDA	71	(50 - 200)
13C2 PFUnA	57	(50 - 200)
13C2 PFDoA	62	(50 - 200)

Dalton Utilities

Client Sample ID: #79 260 FOX BRIDGE RD

HPLC

Lot-Sample #...: D9I100275-004 Work Order #...: LKKWC1AC Matrix.....: WATER  
Date Sampled...: 09/09/09 11:48 Date Received...: 09/10/09  
Prep Date.....: 09/11/09 Analysis Date...: 09/12/09  
Prep Batch #...: 9254190 Analysis Time...: 15:29  
Dilution Factor: 1  
Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
MeFOSA	65	(50 - 200)

Dalton Utilities

Client Sample ID: #80 1138 FOX BRIDGE RD

HPLC

Lot-Sample #...: D9I100275-005 Work Order #...: LKKWE1AA Matrix.....: WATER  
 Date Sampled...: 09/09/09 12:40 Date Received...: 09/10/09  
 Prep Date.....: 09/11/09 Analysis Date...: 09/17/09  
 Prep Batch #...: 9254187 Analysis Time...: 06:57  
 Dilution Factor: 1 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0098
Perfluorooctanesulfonate	ND	0.020	ug/L	0.013
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0098
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.011
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0029
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.013
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.017
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0069
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.015
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.018
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.015
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0082
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0070

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	121	(50 - 200)
13C4 PFOS	70	(50 - 200)
13C4 PFBA	92	(50 - 200)
13C2 PFHxA	107	(50 - 200)
18O2 PFHxS	94	(50 - 200)
13C5 PFNA	91	(50 - 200)
13C2 PFDA	76	(50 - 200)
13C2 PFUnA	67	(50 - 200)
13C2 PFDoA	75	(50 - 200)

Dalton Utilities

Client Sample ID: #80 1138 FOX BRIDGE RD

HPLC

Lot-Sample #....: D9I100275-005    Work Order #....: LKKWE1AC    Matrix.....: WATER  
Date Sampled...: 09/09/09 12:40    Date Received...: 09/10/09  
Prep Date.....: 09/11/09    Analysis Date...: 09/12/09  
Prep Batch #....: 9254190    Analysis Time...: 15:44  
Dilution Factor: 1

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	76	(50 - 200)

Dalton Utilities

Client Sample ID: #81 1293 FOX BRIDGE RD

HPLC

Lot-Sample #...: D9I100275-006 Work Order #...: LKKWF1AA Matrix.....: WATER  
 Date Sampled...: 09/09/09 13:19 Date Received...: 09/10/09  
 Prep Date.....: 09/11/09 Analysis Date...: 09/17/09  
 Prep Batch #...: 9254187 Analysis Time...: 07:13  
 Dilution Factor: 1 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0098
Perfluorooctanesulfonate	ND	0.020	ug/L	0.013
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0098
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.011
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0029
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.013
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.017
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0069
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.015
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.018
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.015
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0082
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0070

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	108	(50 - 200)
13C4 PFOS	61	(50 - 200)
13C4 PFBA	85	(50 - 200)
13C2 PFHxA	98	(50 - 200)
18O2 PFHxS	87	(50 - 200)
13C5 PFNA	84	(50 - 200)
13C2 PFDA	68	(50 - 200)
13C2 PFUnA	51	(50 - 200)
13C2 PFDoA	53	(50 - 200)

Dalton Utilities

Client Sample ID: #81 1293 FOX BRIDGE RD

HPLC

Lot-Sample #...: D9I100275-006 Work Order #...: LKKWF1AC Matrix.....: WATER  
Date Sampled...: 09/09/09 13:19 Date Received...: 09/10/09  
Prep Date.....: 09/11/09 Analysis Date...: 09/12/09  
Prep Batch #...: 9254190 Analysis Time...: 15:51  
Dilution Factor: 1

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
MeFOSA	66	(50 - 200)

Dalton Utilities

Client Sample ID: TRIP BLK

HPLC

Lot-Sample #....: D9I100275-007    Work Order #....: LKKWG1AA    Matrix.....: WATER  
 Date Sampled....: 09/09/09    Date Received...: 09/10/09  
 Prep Date.....: 09/11/09    Analysis Date...: 09/17/09  
 Prep Batch #....: 9254187    Analysis Time...: 07:29  
 Dilution Factor: 1  
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0098
Perfluorooctanesulfonate	ND	0.020	ug/L	0.013
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0098
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.011
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0029
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.013
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.017
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0069
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.015
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.018
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.015
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0082
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0070

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	119	(50 - 200)
13C4 PFOS	77	(50 - 200)
13C4 PFBA	87	(50 - 200)
13C2 PFHxA	100	(50 - 200)
18O2 PFHxS	96	(50 - 200)
13C5 PFNA	99	(50 - 200)
13C2 PFDA	88	(50 - 200)
13C2 PFUnA	63	(50 - 200)
13C2 PFDoA	69	(50 - 200)

Dalton Utilities

Client Sample ID: TRIP BLK

HPLC

Lot-Sample #....: D9I100275-007    Work Order #....: LKKWGLAC    Matrix.....: WATER  
Date Sampled....: 09/09/09    Date Received...: 09/10/09  
Prep Date.....: 09/11/09    Analysis Date...: 09/12/09  
Prep Batch #....: 9254190    Analysis Time...: 15:58  
Dilution Factor: 1

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	93	(50 - 200)

Dalton Utilities

Client Sample ID: FIELD BLK

HPLC

Lot-Sample #...: D9I100275-008    Work Order #...: LKKWH1AA    Matrix.....: WATER  
 Date Sampled...: 09/09/09    Date Received...: 09/10/09  
 Prep Date.....: 09/11/09    Analysis Date...: 09/17/09  
 Prep Batch #...: 9254187    Analysis Time...: 07:45  
 Dilution Factor: 1  
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0098
Perfluorooctanesulfonate	ND	0.020	ug/L	0.013
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0098
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.011
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0029
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.013
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.017
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0069
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.015
A)				
Perfluorotridecanoic acid (PFTria)	ND	0.020	ug/L	0.018
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.015
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0082
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0070

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	108	(50 - 200)
13C4 PFOS	74	(50 - 200)
13C4 PFBA	85	(50 - 200)
13C2 PFHxA	95	(50 - 200)
18O2 PFHxS	94	(50 - 200)
13C5 PFNA	97	(50 - 200)
13C2 PFDA	83	(50 - 200)
13C2 PFUnA	67	(50 - 200)
13C2 PFDoA	69	(50 - 200)

Dalton Utilities

Client Sample ID: FIELD BLK

HPLC

Lot-Sample #....: D9I100275-008    Work Order #....: LKKWH1AC    Matrix.....: WATER  
Date Sampled....: 09/09/09    Date Received...: 09/10/09  
Prep Date.....: 09/11/09    Analysis Date...: 09/12/09  
Prep Batch #....: 9254190    Analysis Time...: 16:05  
Dilution Factor: 1

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
MeFOA	75	(50 - 200)

Dalton Utilities

Client Sample ID: DUP

HPLC

Lot-Sample #....: D9I100275-009    Work Order #....: LKKWJ1AA    Matrix.....: WATER  
 Date Sampled....: 09/09/09    Date Received...: 09/10/09  
 Prep Date.....: 09/11/09    Analysis Date...: 09/17/09  
 Prep Batch #....: 9254187    Analysis Time...: 08:01  
 Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0098
Perfluorooctanesulfonate	ND	0.020	ug/L	0.013
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0098
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.011
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0029
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.013
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.017
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0069
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.015
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.018
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.015
S)				
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0082
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0070

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	104	(50 - 200)
13C4 PFOS	64	(50 - 200)
13C4 PFBA	85	(50 - 200)
13C2 PFHxA	94	(50 - 200)
18O2 PFHxS	88	(50 - 200)
13C5 PFNA	85	(50 - 200)
13C2 PFDA	68	(50 - 200)
13C2 PFUnA	60	(50 - 200)
13C2 PFDoA	63	(50 - 200)

Dalton Utilities

Client Sample ID: DUP

HPLC

Lot-Sample #....: D9I100275-009    Work Order #....: LKKWJ1AC    Matrix.....: WATER  
Date Sampled....: 09/09/09    Date Received...: 09/10/09  
Prep Date.....: 09/11/09    Analysis Date...: 09/12/09  
Prep Batch #....: 9254190    Analysis Time...: 16:12  
Dilution Factor: 1

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	81	(50 - 200)